THE GENESEE FARMER.

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THE GENESEE FARMER.

SATURDAY, JULY 16, 1836.

The Crops.

(*In a letter from Cayuga county of the* 1st *inst.*)

The great depth of the last winter's snow, and its long continuance, proved very injurious to the early sowed wheat. Large patches in many fields, had not a green blade left, and though the season since has been favorable where any life remained in the root, yet it is a current opinion, sanctioned by the extended observations of farmers of great experience, that *there will not be one half of an average crop.* Near the Cayuga Lake, some fields are more promising. This circumstance may be accounted for, partly by the more favorable nature of the soil, partly by the fields being more hilly or sloping, and partly by the earlier melting of the snow.

From the long continued rains, the meadows will be very productive; and the oat crop promises well; but on the contrary, the Indian Corn has suffered from the cold and wet weather. The culture in many instances was deferred; and in other instances performed when the ground was rather wet.

Our fruit trees promise a fair crop, notwithstanding the severity of the last vernal frost. Apples will be plenty, and Pears on some trees. The Plum trees have recovered in great measure from the damage which they sustained in the summer of 1833 by the wet weather when they dropt their leaves; and though the Curculio has been industrious, as asual, probably there will be a large surplus to which its labors will not extend. If we could direct or restrain the operations of this creature, it would become one of our best friends, by *thinning the fruit*, which in consequence would be larger and more highly flavored; but it is "a chartered libertine," and works with the same industry on a small tree the first year of its bearing, as on old branches which are crowded to excess.

In some parts of the county, the Peach trees were damaged, and some even killed, by the late severe winter; but nearer the Cayuga Lake, the prospect of fruit is fine. Some of my trees will be overloaded. I have frequently remarked that steady and even intense cold, was followed by plentiful crops of this fruit. In general thaws of much continuance, are unfavorable by starting the blossom buds—that is, by inducing the sap to flow into them, which is afterwards liable to expand into ice, and thus rupture the vessel. This view of the subject however, though correct, may be too *mechanical* for a full explanation, for leaves often live after the sap vessels are ruptured. The sensibility of the bud increases with its size, and when intense cold follows, its vitality is often extinguished.

The biennial *May Weed* subtracts largely from the profits of the farm; and I have seen patches in several fields where the wheat was almost expelled by this intruder. Our farmers must be on the alert. When they find but little to reap at harvest, it is immaterial whether this results from bad fences and breachy cattle, or from inattention to silent depredators which appear in the form of weeds.

Wheat Insect.

We copy for the Farmer the following interesting description of the English or European wheat insect, in order that it may be ascertained if possible, whether it is the same kind which has for a few years been so destructive to our wheat fields in the valley of the Hudson, and in New England. The season for making observations is fast approaching, and we hope the farmers of this wheat growing district will have an eye to this matter, since one species of the insect at least exists in our wheat, and every thing which touches our staple commodity should be closely scrutinized. Ten millions of dollars would not efface the distress and loss which a total failure of the wheat crop for one season alone would occasion in Western New York. We copy from Harper's edition of the Edinburgh Family Library, vol. 74, page 227. Histery of Insects, vol. 2.

"The wheat as soon as it blossoms is attacked by a *small orange colored midge*, (or gnat, as it has been miscalled,) of a very delicate form, which deposits its eggs among the glumes of the florets of the wheat, by the assistance of its ovipositor, which is very long and retractible within the body, like the joints of a telescope. The wings are broad and covered with very fine hairs, but they are almost entirely destitute of nerves; the antennæ are also very beautiful microscopic objects, being composed of a number of small knobs, each of which is surrounded with a whorl of fine long hairs; the legs are also very long and slender.

"The history of this fly, which is the *Cecidomyia triticea*, has occupied the attention of several entomologists, and from their researches it appears that it is towards the end of June, and throughout July, that the operation of depositing the eggs takes place. The flies are said to repose during the day on the lower part of the stems, becoming active about sunset, their activity depending in a considerable degree upon the sun's being either near or below the horizon: and frequenting during the day the most shaded parts of the crop. The insects prefer the ears emerging from the vagina (or sheath) to those farther advanced for the deposition of their eggs, and from only one side of the ear being exposed in this state of growth, the other side generally remains uninjured. Sometimes as many as twenty-five flies have been observed upon a single ear, in the act of depositing their eggs, which are generally found in clusters, varying in number from two to ten upon the inner chaff; they are also to be observed in the interior part of the flower, being fixed by a glutinous secretion, with which they are covered when deposited. It seems to be one of the objects of the female flies to fasten the anthers by means of a similar glutinous matter, so as to prevent the flowers from opening; this is done to enable the larvæ the more easily to attack the anthers, upon which it feeds; and it often happens that so intent are the females while thus engaged, that they become entangled in the corolla, and fall a sacrifice to their maternal affection, or rather to the instinct which impels them to perform this act. The larvæ are hatched in eight or ten days, when they immediately commence feeding upon the pollen, which is only sufficient, however for their supply in the first instance, after which they crowd around the lower parts of the germen, where they probably feed upon the matter destined to form the grain. As many as forty-seven larvæ have been counted in a single flower, so that an idea may be formed of their minute size. After arriving at their full size, the larvæ quit the ears of wheat and fall to the ground, beneath the surface of which they are transformed into pupæ. It appears moreover, that this little insect abounds in some seasons to such a degree, that it destroys at least a twentieth part of the crop."

From this last representation it appears that the American *tritici*, whether it be the same as that above described by Messrs. Kirby and Marsham, or another variety of the same species, is infinitely more destructive, whole wheat fields being left entirely desolate by them. That the mischief here as well as there is done by a fly there can be no doubt; and when the kind and its habits are fully ascertained, there may be a hope of adopting some effectual remedy to prevent its increase or depredations. G.

A Short Dialogue.

Traveller. You have extremely muddy roads in this country.

Resident. We have so; and no people were ever more deserving of them, or labored harder to obtain them. A portion of almost every thing of which mud can be made, is industriously scraped into the beaten track; and then nothing more is wanting than a little rainy weather, and a few hoofs to work it into mortar.

Trav. But do not your Overseers of Highways perceive that gravelly earth is much better than sods and muck for making roads?

Res. It would seem that they do not; and when convenient, some of them scrape in chip-dirt and stable manure without hesitation.

Trav. That is as bad as carrying a stone to balance a bushel of corn.

Res. They don't think so.

Trav. But I do.

A gentleman in Shrewsbury, N. J. will, it is said, realize by his peach crop from 10 to $12,000.

Making Hay.

The following remarks on hay making, are from the Farmer's series of the Library of Useful Knowledge, and part of the report from the Frocester Court Farm;

"The age, or state of ripeness at which a crop of grass is to be cut for hay, is of great importance, for on it depends the quality of the hay. The earlier it is cut, the better will be the quality of the hay,* and the greater will be the quantity of the after grass; and the longer it stands before it is cut, the greater will be the quantity of the hay, but it will be of an inferior quality, and the after grass† will be diminished in a much greater proportion than that in which the hay is increased. Early mowing is therefore always practiced on this farm. The mowing begins about the first of June, when the grasses are in blossom, and when they are seldom more than six weeks old.

"The mowing should be so performed, that neither the strokes of the sythe nor the junction of the swarths can be discerned. This is accomplished by fixing the sythe to the handle so as to have it level with the ground during the operation of mowing, by not taking on too wide a swarth, and by making the sythe come out a little beyond the standing grass every time.

"The more expeditiously grass is converted into hay, and the more of the natural juices of the grass the hay retains, the better is its quality. It cannot be too often tedded, or shaken abroad, while passing from a state of grass to a state of hay, particularly in the first stages of the process. The hay machine‡ is therefore of great advantage in the work; for besides that a boy and horse can do with it as much as eight men; it does the work much more perfectly, all the grass being completely separated, and spread regularly over the ground to dry; and the hay is in consequence ten per cent. better in quality, than that which is made by the hand. The hay in three or four days after mowing, if the weather is favorable, is either put into wind cocks, or carried to the rick, or the barn."

NOTES.

* We think this position is doubtful. The earlier hay is cut, the more fine will be its appearance, it will be more fragrant, and cattle will devour it readily; that is, if it is well made; but that it is "*better*" than hay made from grass which has stood till the rich natural juices have been fully matured, and cut before they have been dissipated, we shall be slow to believe. When grass has reached this point it is much more readily cured than when cut greener, quite an advantage in our changeable climate; and we have long observed, that when well made, horses and cattle seem to prefer the later cut to the earlier, and it is evident it must be far more nutritive and substantial. There is in our opinion much the same difference in the two kinds of hay, that there is between unripe corn when dried, and that which is thoroughly sound and ripe.

† That there will be more aftergrass when mown early is not disputed; but in this country little rowen or after grass is cut, and no good farmer will willingly allow his meadows to be grazed to any extent. Unless in extraordinary cases, the after grass had better remain on the field, where it assists in preserving the roots from the action of the frost, serves as a top dressing to the soil when it decays, and greatly facilitates the growth of the grass in the spring.

‡ The hay machine spoken of here, and used for spreading hay, has been introduced into this country; but has not been found as useful as is here represented. The reasons it is presumed are, our farms in general have not the surface sufficiently smooth and level for its advantageous operations, and by cutting our grass at a more advanced period, its use is less necessary. The horse rake is the only instrument we have seen used, really calculated to facilitate in any considerable degree the making and securing of hay, and those farmers who neglect it, either in its single or double form, incur a needless amount of labor and run risks of damage which by its use might frequently be avoided. G.

Clover Hay.

Every farmer is aware that clover, when made into hay without damage from rain, furnishes one of the most palatable and nutritious kinds of food which can be given horses, cattle or sheep, during the winter; and they are equally aware, that from the changeable nature of our climate, it is very difficult to save it in the ordinary way so that it will not be exposed to the weather, and deprived in a great measure of its rich leaves and nutritive qualities. Within a few years past a mode of curing it has been adopted by some of our principal farmers, which promises in a great measure to obviate these difficulties, and render the saving of clover in good order as certain as that of any other grass.

The practice of those who have adopted it is, to cut the clover in the forenoon, let it lie in the swath till the afternoon and wilt as much as possible, then put it up with a fork into cocks that will weigh from seventy to one hundred pounds when cured, let it remain in this situation three or four days, according to the weather, when it must be opened and spread out, and when thoroughly dried is fit to go to the rick or barn. The difference between this process and the usual one of repeatedly shaking out, is, that cured in this way, the leaves and blossoms, constituting the most valuable part of the hay, are saved; while in the other, exposed to a hot sun and repeatedly turned, these are shaken off and mostly lost, leaving only the hard stems for the feeder. Clover cocked in this way suffers a partial, but no wise injurious fermentation, the heated air passing rapidly off, and from the smallness of the piles, the exterior dry air circulating partially nearly through the whole. Mr. John Smith, an extensive farmer near Baltimore, has given in the Farmer and Gardener an account of some experiments of his in saving clover by this sweating process, as it may be termed, and they were entirely satisfactory. In one instance the cocks were put up green, but free from external moisture, and as it continued rainy ten days, the heaps remained unopened during that time. Mr. Smith adds—"They were then spread and the hay found in a perfectly sound condition, except so far as the rain had penetrated, and the external wetting alone in my opinion made it necessary to open it at all. I have never seen worse weather in hay harvest, and I saved mine entirely well. It is most excellent hay."

Judge Buel has adopted this plan of curing clover, and gives it his unqualified approval, as also many others of our most respectable farmers. It certainly must be a saving of much labor if it does what it promises; and it is hoped that the farming community will the present season for themselves test the merits of the system, as it may easily be done. It must be remembered, that the clover must be *laid up with the fork, not rolled together*, as is usually practiced, as the external moisture or rain cannot so well be kept out when rolled; and the heaps must be made as high as is convenient in proportion to their base, that the circulation of air may be more complete, and the escape of the heated air more easy. G.

Millet.

Under the term millet are comprehended certain plants of different genera which are cultivated for their seeds:

1. Panicum miliaceum—Common Millet.
2. Setaria italica—Italian Setaria.
3. Setaria germanica—German Setaria.
4. Sorghum vulgar—Indian Millet.

Common millet grows several feet high, and is terminated by a large branched panicle hanging to one side. It is very prolific in seeds. These are small and smooth; in some sorts brown, and in others yellow. The plant is cultivated extensively in Russia, in Italy, and Germany. Its seeds, being divested of their outer covering, are used in the manner of rice, and furnish a nourishing and grateful food. They are also made into bread, which, however, is not esteemed. They are used for the feeding of domestic fowls, for which they are well suited. The straw produced is bulky, and valued for provender.

The cultivation of common millet is not practiced in this country. It is not with us a part of the food of the people, while with respect to the feeding of domestic fowls, we have so many resources in the waste of our cereal grains, that there is scarcely need of cultivating any plant expressly for the purpose. But more than this, millet is not well suited to the colder parts of Europe, and supplies of it can be obtained in unlimited abundance from the shores of the Mediterranean.

The Italian setara, cultivated in the south of Europe, is only known to us in this country as a plant of the garden. It is too delicate for the northern parts of Europe; for even about Bordeaux it is a precarious crop, suffering frequently from the effects of frost.

German setaria is cultivated in Hungary in fertile subhumid soils. It is used in its green state, or as dried fodder for horses and oxen.

The Indian millet furnishes bread to the Arabians and other people of the East. The flour is known to the Arabs under the name of dourra: and it is truly the bread corn of Africa, being grown over all the parts of that vast continent. It is cultivated likewise in Italy and the south of Germany; and it was long ago introduced into Spain, it may be supposed by the Moors, if not at an earlier period still by the Carthagenians. It has been introduced also into the islands of the West Indies under the name of Guinea corn, and into the Southern United States of America.

This fine plant grows with a strong reedy stem with broad leaves like those of the maize, but smaller, and producing a large panicle. Its seeds are smooth and roundish, resembling those of the common millet, but larger. They are ground into flour, but the bread made of it is dark in color and coarse. In Europe the grain is chiefly used for feeding domestic fowls and pigeons, for which it is well suited.

This plant is the native of a warmer country, and demands a more genial climate than we possess. With us it will scarcely even ripen its seeds, and frequently not even expand its flowers. Other species of Sorghum are likewise cultivated, but the same remark applies with more or less force to them all.—*Low's Elements of Agriculture.*

THE CROPS.—The prospect of the grain crop in Virginia begins to brighten. The Wheeling Advertiser says, "We are assured by farmers in this vicinity, that the prospects here for a harvest are excellent."

We copy some interesting suggestions to-day on the cultivation of *Strawberries* from the essay of an English gentleman in this country.—*Newark Daily Adv.*

Strawberries—Barren and Bearing.

This fruit is certainly quite as fine here as in England. We have the real Hautbois—that Queen among strawberries—of which very few people in this country have eaten, for the fruit which is so called by many gardeners, is not the true Hautbois, although it be a little like it in perfume. What is in general thought to be Hautbois is nothing more than the Alpine, a small light red strawberry, which falls from the stem as easily as the raspberry does; the real Hautbois, however, does not ripen well in the upper part of the state of New York.

Independently of the slight approach to the perfume of the Hautbois, the Alpine plant resembles it in the shape and peculiarity of leaf, which is deep green, glossy and crimped. In fact, the leaves of both are exactly alike, excepting in size, the true Hautbois being twice as large as the Alpine. The flowers of the latter are very different, the male and female flowers are on separate plants. The female blossoms can easily be distinguished from the others; the former appears like a geen turf, with small yellow dots around the base of the circumference. The male flowers are studded with stamens, about a third of an inch long, having little yellow heads filled with the farina.

The fact is so settled and certain, respecting the sexes of plants, that it is almost absurd to enter into any argument about it; yet so much ignorance and carelessness prevail among the cultivators of strawberries, that the knowledge which men of science have obtained, is of no avail. I once heard a gentleman say, that his strawberry plants always bore fruit, and that no care was taken to observe the due proportion of barren and bearing blossoms! This person was a botanist—a closet botanist—one who used to pick up flowers in the fields, in woods, in the crevices of rocks, and had plants sent to him from abroad! He would talk for hours on the subject, and was in full correspondence with the learned of Europe! He knew of the difference to be sure, but he insisted that nature regulated all this matter, and never left any thing to chance.

We frequently hear of beds which blossom freely, and yet never bear fruit; ignorant people attribute the failure to frost, to a too rich or a too poor soil; and in fact a hundred reasons are given for the loss of fruit. "My soil is not suited to strawberries," said a gentleman one day to Dr. Bentley, "and I am compelled very reluctantly to give up the pleasure of raising them. I have tried various positions for their location, and have made experiments with different kinds of manure, to no purpose. I have tried to raise them on rich sandy loam and on poor land, but if I get a crop one season, they disappear in the second. Nay, so unsuited is my soil to their nature, that those runners which crept under a fence into a rich border of my garden, from a neighbor's bed, which always bore abundantly, never even made a show of fruiting. You can look at them now, they are not quite out of blossom."

Dr. Bentley examined the plants—they were all males. He then went to the neighbor's garden, and saw there, likewise, that there were very few bearing plants. "You will not have many strawberries this year," said the Doctor to the gardener.

"Oh! you are mistaken," said the latter, "there was the greatest show of blossoms I ever saw, and there has been no frost to hurt them."

"Well—take my word for it, my friend," said the Doctor, that this bed will not give you six quarts of strawberries this year, and if you do not weed out all the plants that bear these blossoms"—pulling up some male blossoms—"and fill in the vacancies with plants of this kind"—shewing him the female blossom—"you will have no fruit at all next summer."

The man sneered at the Doctor—he had but few strawberries, as was predicted, and the next summer, about the time that he expected the fruit to set, not seeing any, he dug up the bed, and made a new one!

A strawberry bed never will fail in any kind of soil, if the proportion of bearing and unbearing plants be as one of the latter to ten of the former. Excess of rain or drouth, cold or heat, may injure the size and flavor of the berries, but strawberies there will be great numbers, if not of good quality.

You may recollect when school boys, that for two successive years we had no strawberries in what we called our own little garden. We thought we had "killed them with kindness," as we were constantly working among them and keeping them free from weeds. The plants grew well and blossomed well, but they did not reward our care, for they gave us no fruit. I now know that all the plants must have been of one kind.

Mr. Thorn sent to a gentleman in Burlington for some plants of the Higbee strawberry. They arrived in good order after a fine August rain of two days, and the next May they were all in flower—but there was not a female plant among them. Two or three runners had been set apart by themselves to give runners for a new bed: from these runners, which happened to be all males, the plants which were sent to Mr. Thorn had been taken. Mr. Thorn did not find out the cause of his misfortunes until our good Doctor saw the blossoms; of course the whole bed had to be dug up. If they had been female plants, it would have only been necessary to take up every tenth plant and deposit a barren plant in its place.

The male plants of certain kinds of strawberries are more apt to send out runners, than the female. For instance: in the Higbee, the male plants would soon cover the bed with their runners to the exclusion of the females, whereas in the real, dark brown Hautbois, the female plants are strongest, and completely occupy the ground.

The best plan therefore is, to have a few plants of both sexes in different places, that a proper proportion of each may be taken to make a new bed. This precaution is necessary with the Hautbois, because there is no difference in the shape of the leaf, and of course we never could tell the male from the female, unless the plant were in blossom. But in the Higbee, or large solid preserving strawberry, the case is different, the latter being rounder, fuller, thicker, of a paler green, more cramped, and less glossy. A practical eye can tell the difference between them immediately.

One reason why the Chili strawberry is said to be a "*shy bearer*," is because the barren plants soon predominate. But if one steady course be pursued, there will be no trouble with the cultivation of any of those strawberries which have male and female blossoms on different plants.

A strawberry bed, well managed, must never have a single runner in it. The plants should be fourteen inches apart each way, if in a private garden; but if the fruit be for sale, then they should be ten inches apart in one direction, and three feet in the other, so as to allow the hand plough to be used between the rows. This hand plough will save a great deal of labor, as three men, (horses will not do,) will turn over more ground, and more effectually, in one hour, than these three men could do in twelve with the spade.

When the first season is over, Dr. Bentley, with a garden tool called a half moon cutter, has all the dead and broken leaves, as well as the runners, cut off close to the plant. The hand plough is then used, and thus the plants have time to recover from the tugging, and pulling, and trampling which they have undergone during the period of planting.

The frame of the ship Ohio, now undergoing repairs at New York, was found on stripping off her plank, to be perfectly sound, though left to its fate for 15 years. This is one evidence of the durability of *live oak*.

From the Quarterly Journal of Agriculture.

The Culture of Rhubarb.

My notice of this exquisite vegetable shall be comprised in a few lines; but these, I trust, will avail to extend its culture more and more; for any thing more productive, salubrious, profitable, and expressly suitable to the purposes of the cottager, can scarcely be found in the entire list of vegetable productions. A few years only have elapsed since the rhubartic hybrid, *green* rhubarb, was cultivated for tarts, and held in very slight estimation; but since the introduction of the larger (giant) varieties, the demand has increased with surprising rapidity. Of the two sorts which I earnestly recommend, one is called, if I mistake not, *Radford's Scarlet Goliah;* and the other is a small *red* variety, which is crimson throughout when boiled or baked. These will supply the table from April to August, and suffice for every purpose.

Culture.—Let the ground be prepared precisely as for asparagus beds. Select clean offsets, with two or three bold eyes; the first week in March is a very suitable season. The eyes or buds of the Goliah will be of a deep, rich red, hence its name: the leaves, however, and stalks are green though of different hues, and the latter are spotted and streaked with red. In the smaller *pink* variety the red tint prevails throughout.

The plants of the great Goliah should be set firmly in the soil, five feet apart, or five feet one way and four feet another; the smaller kind may be set three feet asunder, plant from plant, giving a free watering to each to settle the soil among the roots. Dry weather, an open condition of the ground, and a temperate, unfrosty state of the air, should be preferred. When the growth becomes established, the ground must be kept free from weeds; and if dry weather supervene, water ought to be freely given around the roots, two or three times, with intervals of four or five days.

Not a leaf or stalk ought to be touched during the first year; and in autumn, when the leaves are all decayed, they should be laid in little trenches formed along the centre of the spaces between the rows, sprinkled with a handful or two of salt, and covered with the earth that had been digged out. Thus the plant will itself furnish a portion of the manure that will annually be required. As winter approaches, a coating of well decomposed stable manure or leaves, or a mixture of both, two or three inches deep, should be laid round each plant, to the extent of two feet; and in the open weather of February, the whole bed must be forked over.

As a proof of the excessive productiveness of the *Scarlet Goliah*, I need only *mention*, that, in the second week of March, 1831, twelve plants were set in ground prepared for asparagus. In June, the leaves met, and the whole plot was covered. In 1832, the plants yielded profusely, many leaves measured above a yard and a half over the surface, the footstalks being an inch and a half broad, and from two to three feet long. The outside leaves were, as required for use, stripped off by an oblique pull, not cut; the family was amply supplied till July and August, and yet the plants increased; the neighbors also were furnished with *leaves* throughout the summer, and with *offset plants* in the succeeding spring. During the two past seasons the root stocks increased to such a size, that, when it became needful to remove some, it required a barrow to contain the weighty mass that was raised, after great labor, from the soil. If any one try the experiment in favorable soil, and with any thing like judicious management, he will scarcely fail to discover that the growth and production of the plant will exceed every demand that can be justly made upon it.

Governor Duncan, of Illinois, has lately completed the sale of a piece of land in Michigan City, which two years and a half ago cost him $250, and which has more than doubled every day since, being sold for $250,000.

COMMUNICATIONS.

Information Wanted.

BY A YOUNG FARMER.

Ever since the introduction of the Saxon Merino into the country, there has existed a considerable difference of opinion among the breeders of sheep, and wool growers, as to their relative value, when compared with the Spanish Merino previously existing among us: some maintaining that they are more profitable than the Spanish, while others as strenuously contend that the advantage is on the side of the latter. The advocates of the Saxony breed insist that the superior fineness of the wool, and the consequently higher price it commands, will more than compensate the deficiency in quantity of fleece, lightness of body, and tenderness in keeping, charged as faults upon them by the friends of the Spanish Merino.

As wool growing is becoming an important and profitable branch of American industry, it is very desirable that the points in controversy between the two breeds of sheep should be early and correctly settled, that those who are entering upon the business may have certain data to go upon, and not encounter the losses usually attendant on undigested speculations. The points of difference which should be settled, and on which we as farmers require information, may be included in the following queries, viz: Does the Spanish Merino on an average clip a greater amount of wool than the Saxony; and if so, how much? Does the Saxon wool on an average command a higher price than the Spanish; and if so, how much? Is the number of sheep lost—the average number we mean—greater in a year in one hundred Saxons, than in one hundred Merinos? Is the number of lambs raised from one hundred Merino ewes greater on the average than from the same number of Saxon ewes?—and if so, what is the rate of difference? Does the Spanish Merino usually weigh more than the Saxon, and for slaughtering command a greater price?—and if so, what will be the average difference between the weight and value of one hundred of each kind? In all these queries and estimates, it will of course be understood that full blooded animals of each kind are intended.

There have already been a number of excellent articles on sheep given to the public in the Farmer; but they relate principally to the best modes of treatment, diseases, &c., and do not enter fully into the points suggested above, and on which at the present time information is particularly desired. Some few writers have incidentally touched them, and to show what the opinion of some practical men has been, we give here an extract or two from some communications. Mr. Z. Barton Stout says—"In proportion to my ewes I have not succeeded in rearing an equal number of lambs for several years past, as I did before the intermingling of the Saxon sheep." "It is well known that some large flocks along the Genesee river, have, for some years past, deteriorated rapidly; and it is not unworthy of inquiry, how far the cause assigned, (the introduction of Saxon blood,) may have occasioned this deterioration." Mr. Jarvis, of Vermont, whose opinion may be relied on in this matter, he having been for a great number of years extensively engaged in sheep and wool growing, says, in an article in Niles' Register, speaking of some pure Saxon imported sheep, "I put eight of these bucks to three hundred Merino ewes, and the progeny was more feeble than I have ever witnessed from Merino bucks. I did not raise more than three lambs from five ewes, for two successive years; and in putting full blood Saxony bucks to the ewes thus crossed, I have not raised more than two lambs to five ewes. I have been still more unsuccesful in raising lambs from the full blood Saxon ewes and bucks, although they have been rather better kept than my other sheep. From my full blooded Merino stock, my increase was commonly nine lambs to ten ewes, and never less than four lambs to five ewes, and my Merino bucks had always been selected for fineness and weight of fleece, and shape, from my own stock." As a reason for this difficulty of rearing, Mr. Jarvis says—"The form of the sheep will satisfy an experienced agriculturist of the true cause. They are long legged, thin quartered, flat sided, narrow boned, not sufficiently deep chested, and long necked. All domestic animals of this shape have feeble constitutions." The cause assigned by Mr. Jarvis for this constitutional defect is this: the persons employed by the Elector of Saxony to make the selections from the Merino flocks in Spain, made fineness of wool the principal object, "and selected the finest wooled sheep without any reference to form of carcass or weight of fleece. In this they have succeeded, for the Saxony wool is certainly finer than the Spanish; but the latter will yield, sheep for sheep, one third more in weight of wool."

Perhaps the experience of the writer of this is too limited to justify the expression of an opinion; yet so far as it extends, it would seem to establish the principles laid down in the above extracts from Messrs. Stout and Jarvis. There can be no doubt that among the subscribers to the Farmer there are a multitude of practical men, whose experience in sheep raising and wool growing, amply qualifies them to impart to others the information so much desired, and which would at once settle those questions which now perplex so many farmers. If such men would now and then devote an hour to the recording of facts connected with their experience in farming, and particularly to the queries mentioned above respecting sheep, and give them to the public through the medium of the Farmer, we are confident they would receive the thanks of the farming community, and from no individual would these be more sincerely rendered than by a YOUNG FARMER.

The Elder Tree.

BY R. WEAVER.

MR. TUCKER—One of your subscribers has politely furnished us with a particular description of an elder tree of an extraordinary size and height, which I think was 19 inches in circumference one foot from the ground, and 15 feet high, and when he gets through giving the dimensions of his said elder tree, he exclaims, "If any body has got as large an elder tree, we should be glad to know it." I have waited some time to give others the opportunity of answering the request, and as no one comes forward, I will give you a description of an elder tree which grows on my farm. I have lived on this farm 25 or 26 years,—have cleared off the forest, set out orchards, and erected buildings, therefore I know the age of my elder tree, which is 21 years old this season; it is 2 feet 6½ inches in circumference 4 feet from the ground; it is 16 feet 10 inches high, and is 16 feet 4 inches in diameter horizontally through the top, forming a handsome top like an apple tree. It grows thrifty, and appears in good health. I should be pleased to show the tree to any one passing this way that would wish to see it. If any one has a larger tree, I would wish to know it.

Secondly, on *Chess*.—As there is much written in the Farmer on this subject, I will add but a few words: that is, I am fully satisfied, beyond all doubt, by long experience and some experiments, that wheat will not produce chess, nor will chess produce wheat, but each will produce its kind, if sowed on proper land, in good time, and if the season is good. If the season is bad, the wheat is more likely to be killed out than chess, therefore we are apt to have more chess, in proportion to the wheat, than we sow. But I forbear to complain, for I generally reap in proportion as I sow, and would say with the Apostle, Gal. vi. 7, "Be not deceived, God is not mocked, for whatsoever a man soweth, that shall he also reap." RUSSEL WEAVER.

Cambria, July 5, 1836.

Cow-Yard Frolics.

BY J. B. B.

How many lamentable as well as laughable scenes I have witnessed in the cow-yard, when good management would have produced a flowing pail of milk, quietly and peaceably drawn from the cow, with ease and comfort to her, and the milker satisfied and thankful. There are different ways to do the same thing, yet but one way that is right, and that is the *best* way. For instance, you have a cow with sore or cracked teats, from which when milked the blood will ooze out between the fingers. This must necessarily be very painful to the cow; but never mind that—she must stand or take a drubbing. Heedless that a cure might be effected in a very short time, with very little trouble, the cracked teats are left to get well as they may. Now, "Old Kick" is a very high strung cow, and full of mettle, and will not stand such treatment. She kicks and runs occasionally, and occasionally gets a flogging to pay for it. However, she continues to kick, because she is hurt, when milked, until the habit of kicking becomes a kind of second nature to her, and then look out for trouble afterwards. The milker commences milking her, she chews her cud, looks good natured, and every thing appears as though it was to be done decently and in order. But the scene soon changes, for "Old Kick," not liking some movement, introduces her hoof against the side of the pail, (if not into it,) and turns it topsy-turvy, the pail rattling and the milk flying. "Old Kick" now expects a flogging, so off she starts full sail. The provoked and angry milker pursues her with the first club or stool he can get hold of, and now for a chase. Round the yard they go at full speed, (which frequently

starts the other cows, and over goes another pail of milk,) until "Old Kick" is overtaken, and then the club or stool is set in motion upon her sides, the sound of which is not unlike the sound of the thresher's flail, which makes the woods resound with its echo. "Old Kick" is now cornered up, and has to take *it*, (showing her *good will* by kicking now and then, and shaking her head,) till the milker considers her thoroughly subdued, and then commences again to milk. Ten chances to one if he has not to go through with another performance like the one just mentioned, before "Old Kick" is set at liberty until the time for another milking. Now the right way would have prevented all this trouble, and "Old Kick" would have remained as she used to be, not the worst of cows. The first step would have been to have cured her teats, which is very readily done by washing them with cold water, and then applying a little *linseed oil*, for a few milkings,—(an effectual cure.)

I had the misfortune to be the milker of a cow, ("Old Kick" was her name,) for two or three years, which had been trained as above mentioned. She was as bad as bad could be, as split pails and sore shins would at the time have testified. She was for the first two seasons gentle and kind, and was considered a very excellent cow. She was then sold, and probably by bad management, either by having sore teats or some other cause, became, as I have stated, as bad as bad could be. The purchaser was accordingly dissatisfied with his bargain, and the seller not knowing the reason, and considering her well worth the money paid for her, gave the man his money and again took the cow. Many has been the frolic I have had with her, for hardly a night or morning passed without a chase, and nothing short of a good threshing would induce her to stand still and be milked. At length I invented a plan which ended the flogging business, and "Old Kick" was completely under my control. I made a small pen and drove her into it, having prepared a strap with a buckle at one end, and buckled it around her hind legs. I then let her manœuver to her own satisfaction, and finding she was fast, she accordingly gave up, and I milked her without even one attempt to kick. She soon became willing for me to buckle the strap without choice of place, and I had no more trouble afterwards, otherwise than keeping a strap in readiness. I tried several times to milk her without fastening her legs, but she soon convinced me she had not forgotten her old pranks. I used the strap two years; she was then fattened and sold to the butcher, and thus ended the life of "Old Kick."

To me no part of the farmer's stock looks more grand and beautiful, as well as lucrative, than a number of sleek, handsome and stately cows, yarded for the purpose of milking. See them! How majestic they look! Their large and handsome bags, furnished with clean and nicely shaped *handles*, and then to draw an overflowing pail of the white and foaming liquid. What can be more delightful!

In my opinion, farmers in general do not make it sufficiently their interest in the selection of their stock, especially those for the dairy. In the first place, the best breed should be obtained, and then a selection should be made of such as are kind and gentle, with another very necessary appendage, viz: sizeable teats. We have a young cow at the present time, and, to speak within bounds, I should not think her teats exceeded one inch and a half in length. The other day I had occasion to milk an old ewe, which had lost her lamb, and am confident her teats were full as long, and I think for choice I had rather milk her! Now I should charge in the course of a season to milk such a cow the extra time, well as trouble and perplexity taken into consideration, full as much as the butter or cheese made from the milk would be worth. The better way I think would be, if necessary, to buy a cow furnished with better teats, (even upon credit,) and let the calf run with the former until old enough to wean, and then fit her for market.

Once more, and I conclude. As it is a very easy thing to spoil young cows, even by a few milkings at first, by bad management, due care should be taken, and the best method pursued. We have found it the most advisable in breaking heifers, to make a small yard and drive them into it, when milked, for a short time at first. If they show any disposition to be obstinate or sulky, the better way is to coax them and treat them gently; they will soon yield, and you will gain their affections, and be blessed with good and gentle cows. J. B. B.

Ledyard, July 2, 1836.

A Team of Cows.

It would perhaps excite a smile, were a man seriously to propose a substitute of cows for oxen or horses in the labors of the field; and yet, on examination the alternative might not, in many cases, be found so unworthy of notice as at first supposed. Working cows is no new thing, and it is hardly possible, unless in certain cases the practice was decidedly advantageous, the custom would have continued so long. Samson accused the Philistines of ploughing with his heifer; an allusion without point, unless the custom was common; and when the same enemies of Israel were compelled to restore the ark they had impiously carried off, the cows that were attached to the vehicle went lowing the whole distance. The practice of ploughing with cows is still common in most parts of the east, and in Africa; oxen being very rarely used for that purpose, and horses never. In the petty principalities of Germany, and in some parts of Switzerland, cow teams are generally used, the necessity of economizing labor, and the means of subsistence having clearly rendered such a course the most eligible. In the duchy of Nassau, for instance, one of the best cultivated and fruitful sections of Europe, according to the statements of the present Governor of Canada, the cow is used nearly altogether for the purpose of farming; and the picture he has given of these teams, driven by women, and conveying the produce of the country to market, as well as doing the other work of the farm, is lively, and well worthy of notice. It is true, a team of cows might not answer so well for our extensive wheat growers, or for breaking up the prairies of Michigan or Illinois; heavy oxen and strong horses will unquestionably continue to be found the best for these purposes; yet that by no means proves that there are not cases in which a heifer team would not be preferable. How many small farmers are there in our country, who cultivate but a few acres of land, and who of course require a team but a few days in a year, who might advantageously for these few days use their cows without injury. When we travel about the country, and find many farmers who think themselves unable to keep more than one cow, yet consider themselves obliged to maintain a span of poor half starved horses, to plough a few acres, or go to mill or to market, one cannot help comparing such farmers with the Nassau peasants, and reflecting, that as a cow can be kept at less expense than a horse, it would be far better for them to keep another cow or two, break them for a team, use them kindly and gently, and dismiss their worthless horses altogether. Cows in this case would be a double profit, for though experience, where they are used, proves that while they are used the quantity of milk secreted is less than when at liberty; yet when their use is over, under favorable circumstances, they soon recover what they had lost in milk, and go on as usual. With good keeping, a cow will pay for herself in a single year; would it not be better then to substitute such valuable animals, where it can be done without permanent injury to them, for the worthless skeleton carcases, that carricature and degrade that noble animal the horse? Let some one then, who is superior to vulgar prejudices, fairly and carefully make the experiment; let him give the result to the public, remembering that the man who shall enable our small farmers to dispense with the horse, by substituting cow labor for horse labor, will be deserving the title of benefactor to the poor. A.

Cure for the Bloody Murrain.

I have the following from a friend as a cure for the bloody murrain in cattle, which has succeeded well in several cases. I will give it in his own words as near as I can remember. If it should be thought worth a place in the Farmer, it may by inserted.

Take a piece of poke root as big as a man's fist, supposed to be half a pound, for a common cow, cut it fine, add two quarts of water, boil it to one quart, and pour it down when warm. The dose may be repeated once a day for two or three days until the cure is complete.

Joseph Priestman.

Recent and Curious Facts and Questions,

RESPECTING PLASTER BEDS IN NEW YORK.

Geneseo, N. Y., June 3, 1836.

To the Editor of the Farmers' Register.

I refer you to a copy of a communication I have just made to professor Silliman. Can you clear away the fog which you will perceive surrounds us? Is it possible that the simple operation of pulverizing will add ten-fold to the efficacy of your shell-marl.

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An additional fact in relation to the fertilizing quality of lime seems to be rendered very probable, if not certain, by some experiments which have been recently made in this town. A Mr. Moore, in digging a well, hit upon a formation of soft or friable limestone combined with fossil shells of great diversity of formation. Specimens were sent in different directions, and there was but one opinion, among those who tested them, that it was a limestone formation. A bed of gypsum is very valuable. Mr. Moore and his

neighbors appeared determined to believe that they had discovered a valuable gypsum formation on their farms. They sent waggon loads to plaster mills, and grist mills, and caused, what they pronounced gypsum, to be spread on a great number of fields, during last fall and this spring. The result has been, in every instance, that the clover, wheat and spring crops have been essentially benefited by the application; and Mr. Moore and his neighbors still believe the substance which they are selling as gypsum, surpasses in efficacy either the Wheatland or the Cayuga plaster. That this formation is equally efficacious with the plaster which is generally used in this section of the State, there seems no reason to doubt; and that it is a limestone formation, is beyond the possibility of a doubt.

Is it possible that the mechanical operation of grinding or pulverizing crude or unburnt limestone, renders it equally fertilizing with gypsum? It appears difficult to avoid this inference. Mr. Moore has erected a windmill—is digging and vending what he calls plaster in great quantities; and the farmers, from hundreds of experiments, entertain the most entire confidence in its efficacy.

With a view of obtaining some additional facts on this subject, which, in its present stage, is a little perplexing, a person called on Mr. Moore with a vial of muriatic acid in his pocket. Mr. Moore showed him specimens of Chittenango, Cayuga, Phelpstown and Wheatland plaster—each of these specimens effervesced on the application of the acid. This fact seems to add to the perplexity of the subject, and would appear to indicate that we are using (and certainly deriving great benefit from the use) a certain description of limestone, but which is not gypsum. If this is a fact, it goes to confirm the idea, that limestone, in a pulverized state is equally fertilizing as gypsum.

The subject is important to the farming interest, and certainly merits further investigation. It would not be difficult to erect machinery which would crush the hardest limestone and prepare it for grinding in a common plaster mill.

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The facts presented above, and the questions growing out of them, are curious and interesting, and well worthy of the investigation which it is hoped will be bestowed on them. But although it seems sufficiently proved (supposing the specimens to have been fairly selected) that the plaster of N. York (or what is called plaster) generally has a natural admixture of carbonate of lime, it cannot be possible that it is wholly of the carbonate—or that it is *not* gypsum, but a limestone formation. It is sufficiently remarkable if the admixture of carbonate of lime, if in considerable proportion, should to this time have escaped the observation, not only of the plaster dealers, and of the intelligent agriculturists, but also of the chemists and geologists who have examined this extensive and valuable formation. The doubts suggested on this head, will, doubtless, serve to bring forward early and satisfactory explanations. The description given of the substance sold by Mr. Moore for plaster, in addition to the test of the acid applied producing effervescence, leaves no doubt of its being principally composed of carbonate of lime: but with all our confidence in this form of lime, as a manure—and deeming it, when applied in sufficient quantity, far better as an improver, than gypsum—still we cannot believe that it can produce, in such very small quantities as gypsum is given, effects that could be mistaken for those of gypsum—or indeed any effects that would be certainly perceptible. Pulverization would greatly aid the immediate action of shells, or limestone, by enabling every atom to operate at once: but even with all this aid, the effect of sowing a bushel of pulverized limestone, or shell marl, could not be mistaken for that of gypsum. Our inference is, that, Mr. Moore's limestone (or marl) contains a large proportion of gypsum, or of some other fertilizing substance than merely the carbonate of lime.

If we have not misunderstood the words of the private letter which accompanied the foregoing article, the writer had sent the same to the Journal of Science, and in that case, the subject will, doubtless, be properly attended to by Professor Silliman. Though not authorized to use the name of the writer of this communication, we can say that none would be better authority.

Ed. Far. Register.

From the Cultivator.

Beet Sugar.

We have received a communication from a friend, soliciting our co-operation with the friends of improvement in Pennsylvania, in furthering the culture of the beet, and the manufacture of sugar from this root. Some gentlemen in Philadelphia, impressed with the importance of the subject, have patriotically sent Mr. James Pedda to France to acquire the knowledge requisite to the culture and manufacture. Our correspondent says, "I have samples of the sugar made from the beet root, equal to the finest loaf I ever saw, and which only cost nine cents per pound in France. When I return I will furnish you with the sample. France last year manufactured eighty millions pounds."

Had our correspondent examined our last volume, he would have seen that we had anticipated his request. At the suggestion of a correspondent in the far west, we gave a summary of the mode of culture and manufacture, from M. Chaptal, than whom no one was more competent to instruct, as he conducted the business on a large scale for twelve years, and was withal, one of the best chemists of the age. This summary will be found in page 85, 86 and 114. The whole process is minutely detailed in Chaptal's "Chemistry applied to Agriculture." We stated that beet sugar could be successfully cultivated in France when foreign sugar did not compete with it in the market at a less price than ten cents per pound. We did not then consider, nor did our readers probably understand, that the remark then had reference to *refined* sugar. The fact now seems to be this, that beet sugar, equal to our double refined loaf, which now sells in the New York market at eighteen and twenty cents per pound, can be profitably sold in France, by the producer, at nine cents per pound, or at half the price of cane sugar. It follows as a matter of course, for bating the difference in labor, we *can* produce it here as cheap as they can in France, that the culture of the beet, and the manufacture of beet sugar, can be rendered *a profitable business* in this country. Our soil and climate are well adapted to the beet; and in the interior, in particular, where the price of foreign sugar is enhanced by the charges of transportation, beet sugar must ere long be among the staple products. As an offset to the difference in labor, we have an advantage in the cheapness of land.—Chaptal's estimates are predicted on a rent of 40 francs ($7,60) per acre.

Chaptal states his average product in beet roots at 40,000 pounds the hectare (which is 2 acres 1 rood 35 perches English); that in his establishment he operated upon 10,000 pounds in a day; that this quantity (10,000 lbs. roots) produced, of

1	Refined sugar, 187 lbs. worth	210	francs.
2	Middling do. 67 lbs. worth	67	" 50 c.
3	Trimmings, 1,000 kilograns, (fed) worth	2	" 50 c.
4	Mash, (fed to stock) 1,250, worth	30	"
5	Molasses, 130, worth	12	"
		322	francs.

equal to about $61 on the products of one-fourth of the hectare, or something more than half an acre of land. The expense of cultivating an acre is stated at 133 francs, about $25, which includes 40 fr. for rent and 10 for taxes, and leaves about $15 75 for cultivating, digging, transporting and storing the crop. He states the expense of cultivating and manufacturing 10,000 lbs. roots, including all charges, at 192 francs, about 36 dollars, leaving as a profit on this quantity of roots, about $25, say $35 the acre, clear profit. Upon 1,200,000 lbs. of roots, the average produce of three hectares, he estimates a nett profit to the manufacturer, after deducting interest on capital, repairs, &c., of 650 francs, about $1,260.

After penning the above, we received the interesting letter of M. Le Ray de Chaumont, which will be found under the head of correspondence, showing the importance of beet sugar as a household manufacture.

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On the Manufacture of Beet Sugar in the United States.

Paris, April 15, 1836.

My Dear Sir—A long space of time has elapsed since my last communication to the State Agricultural Society. Meanwhile I have not had a moment out of mind the promise I made in it to resume the pen as soon as I should have something worthy of being recommended to their attention. It is long since I have been convinced of the vital importance for France of raising the beet root and manufacturing it into sugar. Some time after my last arrival in the United States, some of my friends wanted me to encourage it in America; one of them, chiefly, who had seen my successful establishment at my estate in France, and who knew I had received from the French government the gold medal offered for the best making of the beet sugar; but I could not recommend it for the United States, when I had witnessed how few had succeeded in this country, even during the reign of Napoleon, when sugar was four times the price it is now. Indeed, after that time the working of the beet sugar was entirely given up in Europe, except in France, where even I was almost the only one who would not give up so easily the hope of the great advantages that discovery was to offer one day or another, to a great part of the world. The benevolent monarch who succeeded the great emperor, was soon persuaded that there would be a great benefit for France in encouraging this new branch of agricultural industry. However, nothing more was found necessary to accomplish the object than a simple honorable reward for the most successful; for if the making of beet sugar was really useful, it would soon be proved by the benefits the manufacturers would make. The price of sugar had fallen more than one-half, and many persons who had invested great capitals in the undertaking, met with very serious losses. However, several continued, and new improvements were keeping pace with, and even overbalanced the disadvantages of the constant lowering in the price of sugar. But, sir, I could not give any encouragement in the United States to similar undertakings before the improvements in the manufacturing of beet sugar were made. I am persuaded that it would have been the cause of complete failure in the attempts made by any one till very lately, though it has given great profit to some great establishments in France for a few years past. This I will demonstrate when I enter into more detail.

For the present moment, what I have said above will be sufficient to answer the double purpose of justifying my reserve upon this, so interesting subject, and deserving at the same time the confidence I wish to attain now, when I recommend the cultivation in the United States of the sugar beet, without any further hesitation, for the purpose of manufacturing it into sugar. I am convinced that it will be a very advantageous agricultural pursuit in all parts of the United States, and chiefly in the middle and northern states. The great difference in the price of labor between France and America, which in the account of profit and loss, has produced a balance against the United States in the contemplation of this operation, is now overbalanced by the new discoveries and improvements in the fabrication of the beet sugar. To them, add in favor of the United States, the cheapness of the soil for the cultivation of the beet, and of the fuel for manufacturing the sugar. Those advantages are to be found in all the new states, and some considerable parts of Pennsylvania and New-York. There, also, they will have on their side, in uncommon abundance, the fine water powers, which more than any thing else remedy the difference in the price of handwork between Europe and America.

But, sir, while I was admiring here, in the splendid establishments of this new industry, their fine machinery and their improved chemical processes, I was lamenting that the small proprietor or the farmer could not employ directly his produce by manufacturing himself. I am but just now perfectly satisfied that he can do it, and that with very inconsiderable expense, and without hiring any help; but simply with that of his family. I will quote the praticular instance of a farmer in the north of France, (near Valenciennes,) who has received a medal from the Royal and Central Agricultural Society, for having established on his farm one of the first small beet sugar manufactories, where he makes daily, without any assiatance, but that of his family, 100 pounds of sugar fit for family use without further preparation. The whole house room consecrated to that purpose, is a room 16 feet square, and a cabinet 10 feet by 12. Now, sir, you can undoubtedly appreciate at once all the advantages that a farmer can reap in cultivating and manufacturing the sugar beet. It will be greater yet for those who have, as in the north of Pennsylvania and New-York, the maple sugar. The making of beet sugar may begin in October, and end commonly in March; it is just at the moment when the maple sugar is more commonly made; so that the same implements will answer for both manufactures, and the farmer will have employ for his family during the month when they have most leisure.

The Royal and Central Agricultural Society have just offered several handsome premiums, for whoever will communicate within this year the best methods for manufacturing the beet sugar on small farms. This has given me the idea of not waiting for my arrival in America, for recommending immediately the cultivation of the beet, so that experiments may be made this fall and winter, by employing some of the best systems discovered here, and such as the inventive genius of Americans will not fail to discover.

I remain, my dear sir, with sincere regard, yours, LE RAY DE CHAUMONT.

From the Poughkeepsie Casket.

Wheat.

Wheat, (*Triticum*) is in more universal use as food for man, and is adapted to more varieties of climate and temperature than any other grain. We can trace its use as far back as Abraham, and it is not at all improbable that it was the seed sown by Abel, and was the peculiar object of his care as a husbandman. In Scripture it is known by the name of corn, which many readers have mistaken for the maize or Indian corn now in use, but which was not known to the agriculturists of the Old World until the discovery of America, it being an indigenous plant of our continent. There are seven different kinds of wheat, that are *radically* so while there are some differences or peculiarities in each variety. The first which we shall notice is the

SUMMER WHEAT. (*Triticum æstivum.*)

This grain is supposed to be a native of Siberia, in the land of the Betchkirs. It cannot endure the cold like winter wheat, and its whole appearance is that of a weak plant; the stem is delicate, the ears slender and provided with long beards. The advantage which the farmer derives from spring wheat is the surety he has of its being uninjured by the effects of frost, which often produce an indifferent crop. The sowing may be delayed as late as the month of May, and the crop is sometimes fit for the sickle almost as quick as the autumnal. This kind of grain is somewhat less nutritious than the winter wheat and consequently the former is preferred by the baker. The next in order is the

WINTER OR LAMMAS WHEAT. (*Triticum Herbernum.*)

This grain is far more vigorous than the former; the ear is thick and almost destitute of beards; but is more subject to blight. There are several varieties of this kind, probably produced by different modes of culture. The colors are usually divided into white and red, the former is more productive and the flour of a better quality. There is another kind called the

DUCK BILL OR CONICAL WHEAT. (*Triticum Tirdigum.*)

Agriculturists pay but little attention to this kind of wheat as it is of a very inferior quality.

EGYPTIAN OR MANY SPIKED WHEAT. (*Triticum Compositum.*)

This variety is also called the Corn of Abundance, and is chiefly cultivated in Egypt and adjacent countries, and in Italy. This is the kind of grain which Christ and his disciples gathered on the Sabbath day. It grows luxuriously in Palestine, and will bear great degrees of heat and drouth without injury. The peculiarity of this plant consists in the formation of the ear, which consists of several spikelets; it has long beards.

POLISH WHEAT. (*Triticum polonicum.*)

It has never been cultivated to any extent, and is reared principally in the hot-houses of horticultural gardens. The next variety is

SPELT WHEAT. (*Triticum spelta.*)

Some have imagined this to have been the *Triticum* of the Romans and the Zea of the Greeks although the latter term has been applied to maize. This wheat is peculiarly adapted to warm climates, and flourishes abundantly at the Cape of Good Hope and Australia. It grows also in Spain, France, Germany and Switzerland. It is generally sown in the spring; grows strongly with a stalk nearly solid. Bread made from the flour is of a dry quality. The last variety is the

ONE SEEDED WHEAT. (*Triticum monococcum.*)

The growth of this plant is more diminutive than any of the wheat kind, the ear and bearer being quite small and the spike containing only one single row of grains. This wheat is used principally in Switzerland.

Our limits will not permit us to follow the subject in detail; we will conclude with a few desultory remarks upon its culture. It is an almost universal custom to sow wheat, rye, oats, barley, &c. *broad cast*, but recent experience has shown that the productiveness of the grain is greatly increased by *drilling* or planting the grain in rows about fifty inches apart. The most important part of this department of husbandry is that of ploughing, which Cato the Roman and all succeeding observers laid down as requiring the greatest care that it be done well. By having the soil well turned up, and pulverized, mixing the vegetable decompositions that lie upon the surface with the earth into which the lower fibres of the root will spread, greatly facilitates the process of germination. It is wondrous to witness the progress of vegetation from the seed to the ear. The grain-bearing plants possess a power of multiplication superior to the rest of the vegetable kingdom, and were it not so, the casualties to which they are subject during their earlier stages would often prove fatal to the hopes of the farmer. One or two circumstances may be mentioned where such casualties are of infinite service in the production of cereal grains. An insect called the *Musca pumilionis*, or wheat fly, is accustomed to deposit its eggs in the very core of the *plemude* or primary shoot of wheat, so that it is completely destroyed.

But the multiplying properties of the plant soon repair the injury, and that which seemed like a misfortune is a god-send to the farmer. "This destruction occurring in the spring of the year, when the vegetable powers of the plant are in the greatest activity, an effect is produced somewhat analogous to that of heading down a fruit tree; shoots immediately spring up from the nodes, (knots) the plant becomes more firmly rooted, and produces, probably a dozen stems or ears where, but for the temporary mischief, it might have sent forth only one."

Potatoes.

Extract of a letter dated Paris, (France) April 30, 1836.

"I have lately seen an article published concerning potatoes, which perhaps may possess some interest. The following is a summary. In a letter from a Mr. Bonnet, of Boulogne, to Mr. Poiteau, he says, that about the middle of July, wishing to obtain some potatoes of a very early kind, he procured some stalks which a neighbor had pulled up, and from which he had taken all the potatoes, but had left the fibrous roots. Mr. B. cut off these stalks about eight inches above the roots, and set them out in holes about six inches deep, and large enough to spread roots, and watered them immediately. The next morning, he found the stalks firm and upright, but as the season was dry, he covered them with flower pots inverted; by night they had wilted; he therefore watered them, but left them without the flower pots, so that they might have the benefit of the night dews. He proceeded in this manner during four days, after which they no longer appeared to wilt; they soon sprouted and leaved anew. At the proper time he hilled them, and left them to themselves. About the middle of September he dug them up, and found that they had produced a fine crop of potatoes, and even much superior to the first crop.—*New England Farmer.*

From the Arcana of Science and Art, for 1836.

Spontaneous Plants.

Few things are more extraordinary than the unusual appearance and development of certain plants in certain circumstances. Thus after the great fire of London in 1666, the entire surface of the destoyed city was covered with such a vast profusion of a species of a cruciferous plant, the *Sisymbrium irio* of Linnæus, that it was calculated that the whole of the rest of Europe could not contain so many plants of it. It is also known that if a spring of salt water makes its appearance in a spot, even a great distance from the sea, the neighborhood is soon covered with plants peculiar to a maritime locality, which plants, previous to this occurrence, were entire strangers to the country. Again, when a lake happens to dry up, the surface is immediately usurped by a vegetation which is entirely peculiar, and quite different from that which flourished on its former banks. When certain marshes of Zealand were drained, the *Carex Cypercides* was observed in abundance, and it is known this is not at all a Danish plant, but peculiar to the north of Germany. In a work upon the Useful Mosses by M. de Brebisson, which has been announced for some time, this botanist states that a pond in the neighborhood of Falain having been rendered dry during many weeks in the height of summer, the mud, in drying was immediately and entirely covered, to the extent of many square yards, by a minute, compact, green turf, formed of an imperceptible moss, the *Phascum axillare*, the stalks of which were so close to each other, that upon a square inch of this new soil, might be counted more than five thousand individuals of this minute plant, which had never previously been observed in the country.

We were conversing on Saturday last, with a most excellent farmer who resides in our vicinity upon the subject of the weather and crops, when he informed us, that his wheat, which had escaped the desolation of the *Hessian Fly*, had become sorely affected with the *Scab*; that it was sickening to look at the ravages it had made; that within the last few days his prospects for a good crop were most brilliant indeed; but now he looked forward to nothing but disappointment.—*Balt. Farmer.*

A Female Agriculturist.—Mrs. Bate, near Louisville, Kentucky, with the aid of *sixteen* farm hands, produced the following results from her farm during the last season. The products were 61 tons of hemp, $12,200; 375 tons of hay, $3,750; 10,000 bushels of corn, $4000; 22,000 lbs. of pork $11,000, wool $450, wheat $500, beef $160, oats $200, hemp seed $225, apples and cider $300, marketing $200 and potatoes $275. Total $23,360.

The Thermometer stood at 88 in the shade at New York on the 8th.

From the Farmers' Magazine.

On reaping Corn [Wheat] at different stages

OF MATURITY.

The reaping of corn at different stages of ripeness, has lately excited a good deal of discussion among practical farmers ; and the subject is of so much importance that it is no wonder it should have done so.

An innovation upon long-established custom is seldom popular. And. from the history of fallow —the two-horse plough—the thrashing machine— and the scythe-hook—it would appear that there is something either in the existing state of society among farmers, or in the peculiarities of their profession, which renders the introduction of an agricultural change slow and difficult.

Although the utility of reaping corn before it attains full maturity has at present a host of opponents, yet, it is founded upon just principles, it will ultimately prevail. Indeed, the practice has been slowly gaining ground for many years past ; and it may be predicted, without pretending to the gift of prophecy, that the practice will soon become general in all our best cultivated districts.

The two principal objects to be attended to in the reaping of corn, are the quantity and quality of the produce ; and, when endeavoring to point out the proper stage at which corn ought to be reaped, my observations are intended chiefly to bear upon these two objects, and, if possible, to connect them together.

As culmiferous crops approach maturity, their grains shrink aud become hard, loose in the chaff, and apt to drop out upon the slightest agitation ; the straw stiff, white, and sapless, with the ear curved towards the earth. And when these changes have taken place, the crops are said to be completely ripe ; and in former times they were seldom reaped until arrived at this state of maturation.

In opposition to the ancient practice, a modern one is recommended, called green cutting, the advantages of which are numerous and important. The term green cutting, however, must be used in a restricted sense, as it is obvious there is a certain stage of maturity, previous to which it must be injurious to reap corn.

Corn is said to be green cut, when the straw is full of sap, of a greenish hue, except the part immediately below the ear, which is commonly yellow ; the grain soft, but not milky ; and the whole plant is perfectly pliant. However, corn ought sometimes to be reaped before the straw immediately below the ear becomes yellow ; because in cold and cloudy weather, the circulation of the juices is often stopped, even when the straw appears green ; and the proper stage at which corn ought to be reaped now and then depends upon different circumstances, such as situation, state of the weather, time of the year, &c., a knowledge which can only be acquired in the school of practice.

All practical farmers agree that our common culmiferous crops die downwards ; indeed, a careful examination of the plants, during the latter stages of maturation, will convince any rational individual of this truth, The ear, which is the extreme part of the plant, first assumes the hue that indicates decay ; then, that part of the stalk immediately below the ear ; and the change gradually proceeds downwards. The curvature of the ear, or inclination downwards, which the plant invariably assumes when it has reached maturity, is alone decisive that the plant dies downwards ; because, if the under part of the stalk ripened first, it would first become weak, and consequently unable to support the heavy unripened ear. The wisdom of Nature is beautifully displayed in the dying of the plant, and curvature of the ear. By the plant dying downwards, the lower extremities retain sufficient strength to support the curved ear until the grains drop out and replenish the earth. Were the under part of the stalk first to die, the ear would fall prostrate and prematurely to the ground, and the grains would perish in the chaff. It therefore appears, that the grains of culmiferous crops have reached maturity before the curvature of the ear takes place ; and all that is obtained by waiting until the appearance of this symptom, is the ripening of the straw.

Since corn dies downwards, it is clear that as soon as the circulation of juices ceases in that part of the stalk immediately below the ear, the grains cannot derive any benefit from the rest of the plant, far less from the earth ; consequently, to delay reaping corn when it has arrived at this state, is certainly losing time, and unnecessarily exposing it to the vicissitudes of the weather, without obtaining any advantage whatever.— Nay, corn may even, with propriety, be reaped four or five days before reaching this state, because, during the time in question, the juices are scarce, and their circulation languid. Besides, when corn is reaped stored with juices, the process of maturation goes on for some time after ; a fact which may be supported by many illustrations. The flower of red clover, after it is cut down, long remains fresh when kept in the shade, and during moist weather seems even to flourish. Every species of fruit ripens, as well as matures its seeds, after being plucked before it has reached maturity ; and corn is not an exception. Experience has fully convinced me, that the process of maturation goes on after corn is cut down in a green state, and that the color of the grains is never injured thereby, though sometimes, from being bound together, and excluded from light and air when in a green state. Practical farmers, who are gifted with observation, must frequently have witnessed a whole district apparently unfit for the sickle, become, in the course of four or five days, perfectly dead ripe through the agency of good weather. Surely such corn might have been reaped with safety at the commencement of so rapid a change.

All who have reaped, corn when it was completely ripened, and those who have superintended the reaping of it, must be well aware that many of the best grains drop out in handling the corn during the cutting process, as well as in the after operations, which is entirely owing to the openness of the chaff; that it is difficult, if not impossible, to prevent many stalks and ears from falling to the ground and being lost, which is owing to the stiff sapless state of the straw ; and the finer the quality of the grain, the greater the loss from these two circumstances. Indeed, after an early harvest, such as that of 1821 or 1822, the loss became manifest from the grains vegetating upon the ground. The grains of completely ripened wheat and potato-oats are extremely apt to drop out ; and the ears and stalks of ripe barley are most liable to be lost in cutting ; and probably the late varieties of oats suffer least from being allowed to stand until perfectly ripe. But corn of every description suffers a diminution of produce from the effects of over-ripeness.

When corn is reaped before it arrives at maturity, the swollen state of the grains, and the closeness of the chaff, prevents any loss during the reaping process, as well as in the after operations ; while the pliant state of the straw enables almost every stalk to be collected by careful reapers.

Though, if corn is allowed to be completely ripe before it is reaped, there are few inferior grains ; yet a loss is generally sustained by good ones dropping out ; and if corn is reaped before it has attained full maturity, there is no loss of good grains, but a considerable increase in the number of inferior ones ; so it would appear that there is not much difference, in point of good grain produce, between ripe and green reaping ; but that there is a quantity of inferior grain in favor of green reaping ; and should a gale of wind intervene between the time of green and ripe reaping, the advantage, in point of produce, would be greatly in favor of early reaping.

I believe Mr. Coke was the first individual who maintained, that to reap wheat before it reaches maturity, actually improves the quality of grain ; and the reason assigned by him for doing so is, that as soon as wheat arrives at a certain stage of ripeness, part of the nutritious qualities goes from the kernel to the formation of bran. So, according to Mr. Coke, completely ripened wheat has more bran and less flour, than that which has been cut in a green state. This theory is certainly ingenious ; but my want of experience as a manufacturer of flour and bread, prevents me from giving a decided opinion upon the subject. Were I, however, to judge from the impression which the external appearance of the grains convey, I would say, after having carefully examined the produce of a variety of experiments, that the difference of quality between wheat that has been completely ripened, and that which has been reaped twelve or fourteen days before that stage, is from one to three per cent. in favour of ripe wheat ; and when there is six or eight days between the time of reaping there is no difference of quality. But instances frequently occur in which green cutting certainly improves the quality of grain, or at least prevents it from becoming worse.

When wheat is much lodged, and overgrown with grasses, or excluded from the influence of air during a continuance of damp weather, it is apt to become discolored, and even to sprout.— In such cases, early cutting speedily removes the ears from their perilous situation, and exposes them to a free circulation of air, which is always attended with good effects.

It is well known, that during damp weather, matured grain sprouts even when standing erect. And from the experience of sowing, it has been ascertained, that dry matured grain sprouts sooner than that which is damp and unmanured.— Then early cutting has a powerful tendency to prevent sprouting ; and it is possible to cut down wheat, and, with the aid of a favorable day, to secure it in a stack before it has arrived at a state liable to sprout.

Green reaping certainly improves the nutritive qualities of straw ; and by enabling farmers to extend the time usually devoted to reaping, it would, if the practice was pretty generally adopted, enable them to do with fewer reapers, which would consequently lessen the harvest expenses.

From the foregoing observations it would appear, that by reaping corn eight or ten days previous to its becoming perfectly ripe, the quality of the grain is not injured—the quantity of grain is increased—the grain is some degree secured from the effects of wind and rain—the straw improved in quality—and the expense of harvesting lessened.

If the sun, wind and rain, were under human control, and all the ears of corn could be plucked from the straw and gathered together by the hand alone, then I would be in favor of allowing every species of corn to reach full maturity before reaping it. But when the variable and uncertain state of British weather, as well as the enumerated advantages attending green reaping, are taken into consideration, I do not hesitate to recommend the practice of green reaping to the serious attention of all practical agriculturists. c. c.

June, 3d 1834.

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Broom Corn.

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